

Levees: The Double Edged Sword



National Committee on Levee Safety Meeting

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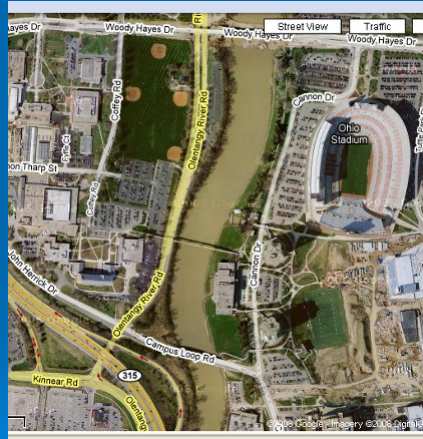
There is a Problem!!

- Traditional development patterns near water
- Population growth, intensification of development
- Urban areas especially at risk



Have We Learned?

- NO, well maybe a little
- Levees induce development
- We don't understand risk
- Out of mind, out of sight
- NFIP flood insurance seen as unnecessary



Then . . . Katrina

- Brought national attention to issue
- Mobilized some political will
- Mobilized lots of agency attention (FEMA, USACE)
- Mobilized some state and local will



Now . . . Gustav

Levee resiliency
was part of
rebuilt system

Still we have a
long way to go
nationally!



ASFPM White Paper

- Adopted by ASFPM Board of Directors April 2007
- In response to not only Katrina but issues as FEMA Map Modernization Program was unfolding

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National Flood Policy Challenges Levees: The Double-edged Sword

This is a position paper prepared by the Association of State Floodplain Managers, (ASFPM), a non-profit professional organization dedicated to the reduction of flood losses in the United States.

Introduction

It has long been recognized that flood protection provided by levees is a double-edged sword. On one hand, levee systems have provided flood protection. On the other hand, given enough time levees either will be overtopped or will fail—leading to severe flood impacts on an unsuspecting population. Unlike a natural flood, levee failure flooding is often rapid, ferocious, extremely damaging, and occurs with little or no warning.

New Orleans is only one example of a community that has felt both edges of the "sword." Many floods were repelled by the levees around the city over the years, but catastrophic flood damage occurred in 2005 as a result of levee failures and overtopping. Subsequent efforts to properly reflect the location of and true protection provided by levees on flood maps in the nation have heightened the awareness of policy makers and citizens about the enormous risk the nation faces in levee-protected areas.

An additional concern is that levees are often placed so that they encroach substantially on river systems. This creates adverse impacts both on flood frequency and severity as well as on the natural functions of the river system.

Because of the nature of levee failure flooding, the ASFPM believes that levees are not a wise community choice and should never be used to protect undeveloped land so development can occur in the flood risk area behind the levee. However, many levees already exist in the nation, especially in communities that were built right on the river or coast, usually at a time when the nation was convinced it could engineer its way out of flooding. Where levees already exist, or where a levee appears to be the best option after careful analysis of all alternatives to mitigate the occurrence of flooding to existing development, the ASFPM advocates that levees (1) must be designed to a high protection standard, (2) must be frequently and adequately inspected, with all needed maintenance funded and performed (if this does not occur, the levee must be treated as nonexistent), (3) should be used only as a method of last resort for providing a LIMITED means of flood risk reduction for existing development, and (4) are inappropriate as a means of protecting undeveloped land for proposed development.

Adopted by the ASFPM Board April 17, 2007

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Levees: The Double-edged Sword

Suggested Areas of Evaluation

➤ Levee Definition

- Current definition varies with agency
- Doesn't account for residual risk or variation in consequences from levee to levee

Need a common definition that includes parameters of risk and vulnerability

Suggested Areas of Evaluation

➤ Levee Inventory

- We don't know what we have!
- Existing efforts have been piecemeal, multi-agency, although FEMA and USACE coordination getting much better

Need a comprehensive inventory of levees and USACE should be the lead agency

Suggested Areas of Evaluation

➤ Levee Design Standards

- There is no minimum standard for public safety
 - Current standards based on B:C and/or removal of flood insurance requirements most of the time
- No requirement for planned failure or resiliency

Need many improvements in this area: public safety factors, resiliency, decision making, etc.

Suggested Areas of Evaluation

➤ Levee O & M / Certification / Inspection

- No requirement except for USACE/sponsor agreements or for flood mapping
- Past has been haphazard approach

Need many improvements in this area based on owner responsibility, common approach, state inspection program, and integration with flood insurance / hazard mitigation

Suggested Areas of Evaluation

- Management of Residual Risk
 - There is residual risk associated with every levee
 - This risk is poorly communicated
 - Ignorance reinforced by no requirement for flood insurance

Need to identify hazard, develop EAPs, require flood insurance and communicate risk effectively

Suggested Areas of Evaluation

- Mitigation of Adverse Impacts
 - Current policies do not account for all adverse impacts
 - Resulting in transference of problem and liability

Need to account for and mitigate adverse impacts. Also liability issue needs to be addressed

Questions??

For additional information visit the ASFPM
website at:

www.floods.org

